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P-6
9/14/85
AREA CODE 217
789-1414

US EPA RECORDS CENTER REGION 5



582217

September 12, 1985

RECEIVED
ENFORCEMENT PROGRAMS

SEP 18 1985

Allen Samelson
Assistant Attorney General
500 South Second Street
Springfield, IL 62706

Environmental Protection Agency

RE: MORCO Springfield (Sangamon County) Facility
Formerly Known As Pierce Waste Oil Service, Inc.

Dear Allen:

Confirming our phone conversation of this morning, I am enclosing materials relating to tank sampling that was done at the above-referenced facility. The first item is a report of chemical analysis from Phoenix Chemical Laboratory, Inc. This represents a sampling that was done on a composite sample collected in March of this year. You will note that the analysis shows the presence of some chlorinated material. From the research that my client has done and which I have also pursued, it appears that such levels are typical and to be expected in normal waste oils. To put this result in perspective, these levels of contamination are roughly equivalent to the presence of one pint of degreasing solvent in a 275 gallon waste oil holding tank such as is typically used by automotive service stations. These degreasing agents find their way into the waste oil during the normal course of business.

For reference purposes, I am including excerpts from a report prepared by the United States Department of Energy in October of 1983. In that report, the DOE tested 24 miscellaneous waste oils for numerous possible contaminants. As you can see, nearly all the streams tested (Tables II-9 and II-12) had contamination levels of 1,1,1 Trichloroethane higher than those found at Pierce Waste Oil. Table X-2 of the same report includes results of an analysis taken at a major east coast re-refining facility showing 1,700 ppm of 1,1,1 Trichloroethane in their typical feedstock.

Based upon the foregoing data, MORCO is not at all surprised at the results reflected in the composite sampling done in Springfield. It is our belief that the presence of these contaminants results from the continued addition and removal of normal waste oils containing low level contamination and is not the result of any residual contamination from prior years when the Pierce facility may have been handling solvents. We expect to validate this conclusion by taking another composite sample in approximately six months when many more gallons of waste oil have gone through the facility. At that time, we anticipate finding approximately the same levels.

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IEPA-DLPC

COPY

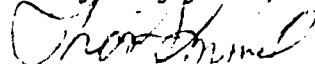
Allen Samelson
Page Two
September 12, 1985

On the matter of soil sampling, I have advised you that Rapps and Associates has been retained by MORCO to prepare a protocol for grid sampling at several MORCO facilities, including the one here in Springfield. The personnel connected with Rapps' office who will perform the field work have been involved in a rather large project which has kept them out of town, and I am informed it will be at least another week or two before they are able to devote their full attention to MORCO's needs. As soon as that work has been performed, it will be submitted to MORCO for approval so that the protocol can then be presented to you and the Environmental Protection Agency for your review prior to implementation. I will keep you apprised as that matter develops.

At your request, I am sending a copy of this letter and the enclosures directly to Virginia Yang at the Environmental Protection Agency to expedite review.

Again, I apologize for the delay in getting these materials in your hands.

Very truly yours,



Thomas J. Immel

TJI/pm

enc.

cc: Virginia Yang
Kenneth Fredette
M. Rapps and Associates

TELEPHONE 772-3377
PHOENIX CHEMICAL LABORATORY, INC. SPRINGFIELD TAN
COMPOSITE

FUEL AND LUBRICANT TECHNOLOGISTS

3953 SHAKESPEARE AVENUE

CHICAGO, ILL. 60647

March 26, 1985

RECEIVED FROM Motor Oil Refining Corp.
7601 W. 47th St.
McCook, IL 60525

SAMPLE OF Liquid

LABORATORY NO. 53185

MARKED Composite 3-12-85

The sample, as received, consisted of approximately equal amounts of an upper organic liquid layer and a lower, apparently aqueous, liquid layer. The following test was conducted on the upper organic layer of the sample:

GAS CHROMATOGRAPHIC ANALYSIS

Component	ppm
1,1,1-Trichloroethane	345
Tetrachloroethylene	73
Unknown 1 (as tetrachloroethylene)	58 (Note 1)
Unknown 2 (as tetrachloroethylene)	49 (Note 1)

Note 1: The sample contained two unknown substances which were detectable by electron capture chromatography. They eluted from the chromatographic column after tetrachloroethylene and may represent higher molecular weight chlorinated species.

A. A. Krawetz
A. A. Krawetz

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SEP 17 1985

EPA DPC



TABLE II-9. RESULTS OF ORGANIC ANALYSES OF USED OIL SAMPLES--FIRST SERIES ($\mu\text{g/g}$ EXCEPT AS NOTED)

Component	Representative oil no.																
	1*	2	3	4	5*	6*	7	8	9	10*	11	12	13	14	C ^b , -	Average	
<u>1,2-Glycols^c</u>	N	N	N	P	P	P	P	P	N	N	N	N	N	N	-	-	
<u>Chlorine</u>	2,600	1,800	1,600	1,600	3,400	6,700	1,000	1,900	1,000	2,400	1,000	1,200	500	1,200	3,700	2,000	
<u>Volatile Organics</u>																	
Trichlorotrifluoroethanes	160	<20	1,350	<20	80	<20	530	<20	<20	160	<20	<20	<20	<20	110	160	
Dibromoethanes	NA	<20	<20	<20	NA	NA	<20	<20	NA	NA	<20	<20	<20	<20	NA	NA	
Dibromoethenes	NA	<20	<20	<20	NA	NA	<20	<20	NA	NA	<20	<20	<20	<20	NA	<20	
Methyl cyclopentane	NA	<20	<20	150	NA	NA	970	<20	NA	NA	<20	<20	<20	<20	NA	NA	
Methyl cyclohexane	NA	<20	<20	150	NA	NA	630	<20	NA	NA	340	110	<20	NA	NA	-	
Chloromethane	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	-	
Dichlorodifluoromethane	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	6	
Bromomethane	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
Vinyl chloride	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
Chloroethane	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
Methylene chloride	<20	<20	<20	<20	90	50	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	
Acrolein	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
Acrylonitrile	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
Trichlorofluoromethane	<20	<20	360	<20	110	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	30	
1,1-Dichloroethylene	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
1,1-Dichloroethane	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
Trans-1,2-Dichloroethylene	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	
Chloroform	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
1,2-Dichloroethane	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	
1,1,1-Trichloroethane	1,700	910	210	100	1,250	1,560	210	950	120	1,500	150	<20	<20	130	1,500	620	
Carbon tetrachloride	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
Bromodichloromethane	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
Bis-chloromethyl ether	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
1,2-Dichloropropane	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
Trans-1,3-dichloropropene	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
Trichloroethylene	570	<20	<20	<20	<20	740	4,900	220	<20	<20	800	<20	<20	<20	130	2,000	
Dibromochloromethane	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
Cis-1,3-dichloropropene	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
1,1,2-Trichloroethane	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	
Benzene	110	90	120	100	110	50	80	<20	180	80	100	90	100	70	70	45	
2-Chloroethylvinyl ether	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<4	<20	

(continued)

TABLE II-12. RESULTS OF ORGANIC ANALYSES OF USED OIL SAMPLES--
SECOND SERIES ($\mu\text{g/g}$)

Component	Representative oil no.										
	15	16	17	18	19	20	21	22	23	24	Average
<u>Chlorine</u>	27,000	3,600	1,700	5,100	2,300	1,800	2,500	1,200	1,100	3,400	2,500
<u>Volatile Organics</u>											
Trichlorotrifluoroethanes	230	<30	860	1,900	1,300	940	<20	620	380	1,400	760
Dibromoethanes	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Dibromoethenes	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Methylcyclopentane	<20	670	<30	<20	80	360	<20	270	190	<30	160
Methylcyclohexane	730	980	<30	230	170	440	110	280	160	280	340
Chloromethane	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Dichlorodifluoromethane	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Bromomethane	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Vinyl chloride	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Chloroethane	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Methylene chloride	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Acrolein	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Acrylonitrile	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Trichlorofluoromethane	<100	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
1,1-Dichloroethylene	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
1,1-Dichloroethane	<100	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Trans-1,2-dichloroethylene	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Chloroform	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
1,2-Dichloroethane	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
1,1,1-Trichloroethane	14,000	2,000	500	880	670	840	110	390	310	1,700	820
Carbon tetrachloride	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Bromodichloromethane	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Bis-chloromethyl ether	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
1,2-Dichloropropane	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Trans-1,3-dichloropropene	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Trichloroethylene	1,600	370	730	3,700	170	<100	<20	<90	<90	790	740
Dibromochloromethane	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Cis-1,3-dichloropropene	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
1,1,2-Trichloroethane	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30
Benzene	<100	<100	<30	100	90	190	<90	190	170	<100	100
2-Chloroethylvinyl ether	<20	<30	<30	<20	<20	<30	<20	<20	<20	<30	<30

(continued)

TABLE X-2. ORGANIC COMPOUNDS IN FEED, WASTE AND PROCESS STREAMS FROM RE-REFINING FACILITY ($\mu\text{g/g}$)

	Feedstock 1	Dehydration				Vacuum distillation					
		Organic phase 3a/b	Aqueous phase 3c	Product 3d	Puel cut 4a	Feed 4b	Bottoms 5a	Light lube ^a 5b	Heavy lube ^a 5c	Spent clay 6a	Light product ^a 8
Relative flow rates (weight)	100	3	17	80	14	66	13	45	8.5	6	43
Volatile Organics											
Trichlorotrifluoroethanes	1,400	13,000	370	<20	<30	<30	NA	NA	NA	NA	NA
Dibromoethanes	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Dibromoethenes	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Cyclopentane, methyl	<30	1,900	<20	<20	<30	<30	NA	NA	NA	NA	NA
Cyclohexane, methyl	280	4,900	<20	90	<30	<30	NA	NA	NA	NA	NA
Chloromethane	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Dichlorodifluoromethane	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Bromomethane	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Vinyl chloride	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Chloroethane	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Methylene chloride	<30	2,400	<20	<20	<30	<30	NA	NA	NA	NA	NA
Acrolein	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Acrylonitrile	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Trichlorofluoromethane	<30	3,100	<20	<20	<30	<30	NA	NA	NA	NA	NA
1,1-Dichloroethylene	<30	280	<20	<20	<30	<30	NA	NA	NA	NA	NA
1,1-dichloroethane	<30	360	<20	<20	<30	<30	NA	NA	NA	NA	NA
Trans-1,2-dichloroethylene	<30	400	<20	<20	<30	<30	NA	NA	NA	NA	NA
Chloroform	<30	<90	<20	<20	<30	<30	NA	NA	NA	NA	NA
1,2-Dichloroethane	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	1,700	50,000	610	200	<30	<30	NA	NA	NA	NA	NA
Carbon tetrachloride	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Bromodichloromethane	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Bis-chloromethyl ether	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
1,2-Dichloropropane	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Trans-1,3-dichloropropene	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Trichloroethylene	790	20,000	230	160	110	<90	NA	NA	NA	NA	NA
Dibromochloromethane	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
Cis-1,3-dichloropropene	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA	NA

(continued)

TABLE X-2 (continued)

Feedstock 1	Dehydration				Vacuum distillation					
	Organic phase 3a/b	Aqueous phase 3c	Product 3d	Fuel cut 4a	Feed 4b	Bottoms 5a	Light lube ^a 5b	Heavy lube ^a 5c	Spent clay 6a	Light product ^a 8
<u>Volatile Organics (cont.)</u>										
Benzene	< 100	1,600	<20	<90	<90	<30	NA	NA	NA	NA
2-Chloroethylvinyl ether	< 30	< 20	<20	<20	<30	<30	NA	NA	NA	NA
Brumofrom	< 30	< 20	<20	<20	<30	<30	NA	NA	NA	NA
Tetrachloroethene	690	8,200	110	140	<30	<30	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	< 30	< 20	<20	<20	<30	<30	NA	NA	NA	NA
Toluene	1,400	26,000	1,300	340	290	<90	NA	NA	NA	NA
Chlorobenzene	<30	<20	<20	<20	<30	<30	NA	NA	NA	NA
Ethylbenzene	440	19,000	<20	30	<30	<30	NA	NA	NA	NA
Dimethylbenzenes	1,400	18,000	270	600	550	<30	NA	NA	NA	NA
Alkylbenzenes (C ₉ H ₁₂)	<30	21,000	<30	3,600	<30	<30	NA	NA	NA	NA
<u>Semivolatile Organics</u>										
Phenol	.46	<5	<0.02	26	110	<5	<4	12	<1	12
Chlorophenol isomers	<6	<5	<0.02	<5	<4	<5	<4	<5	<1	<5
Dichlorobenzene isomers	15	<5	0.2	9	<4	<5	<4	<5	<1	<5
Nitrobenzene	<6	<5	<0.02	<5	<4	<5	<4	<5	<1	<5
2-Nitrophenol	<6	<5	<0.02	<5	<4	<5	<4	<5	<1	<5
Naphthalene	270	1,400	0.7	280	470	31	<4	27	<1	<5
2-Chloronaphthalene	<6	<5	<0.02	<5	<4	<5	<4	<5	<1	<5
2,4,6-Trichlorophenol	<6	8	<0.02	<5	<4	<5	<6	<5	<1	<5
Acenaphthene	9	<5	<0.02	<5	98	<5	<4	13	<1	<5
N-Nitrosodiphenylamine	<6	<5	<0.02	<5	140	<5	<4	<5	<1	8
Hexachlorobenzene	<6	<5	<0.02	<5	<4	<5	<4	<5	<1	<5
Phenanthrene/Anthracene	150	40	0.03	150	670	46	<4	200	22	<1
Dibutylphthalate	<6	<5	<0.02	<5	10	<5	<4	<5	<1	<5
Butylbenzylphthalate	<6	<5	<0.02	<5	<4	<5	<4	29	<1	<5
Bis(2-ethylhexyl) phthalate	32	7	0.1	93	115	25	<4	93	69	<1
Pyrene	20	<5	<0.02	25	100	18	<4	48	23	32
Benz(a)anthracene	18	<5	<0.02	19	83	31	<4	91	100	4
Triphenyl phosphate	<6	<5	<0.02	<5	<5	<5	<4	<5	8	<5
Benz(a)pyrene	<6	<5	<0.02	<5	<5	<5	<4	16	65	2
4,4'-DDE	<6	<5	<0.02	<5	<5	<5	<4	<5	<1	<5
PCBs	18	<11	<10	<21	<8	<19	<11	<11	<8	<14

^aClay treated product.

NA = Not Analyzed (analyses not conducted for volatile components).